



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,959	12/17/2004	Chikafumi Yokoyama	57993US005	5068
32692	7590	11/30/2006		
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
			EXAMINER BUTLER, PATRICK	
			ART UNIT	PAPER NUMBER

1732

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/518,959

Applicant(s)

YOKOYAMA ET AL.

Examiner

Patrick Butler

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12 September 2006.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Applicant's Remarks, filed 12 September 2006, have been entered and have been carefully considered. No Claims are new, amended, or canceled; and Claims 1-12 are pending, with claims 1-8 withdrawn.

Despite these advances, the invention as currently claimed is not found to be patentable for reasons herein below.

Election/Restrictions

Applicant's election with traverse of the inventions of Group II, claims 9-12, in the reply filed on 12 September is acknowledged. The traversal is on the ground(s) that Claim 1 is not obvious over or anticipated by Yokoyama et al. (US Patent App. Pub. No. 2002/0007000 A1). This is not found persuasive because each limitation of Claim 9, which includes is the special technical feature shared with Claim 1, is obvious over Yokoyama et al. (US Patent App. Pub. No. 2002/0007000 A1) in view of Teijin LTD (JP 59045107A) and Jeram et al (US Patent No. 4,340,709) as evidenced by Audsley (US Patent No. 4,929,403) as described in the 35 USC 103 rejection below. Therefore, the requirement is still deemed proper and is therefore made FINAL.

This application contains claims 1-8 drawn to an invention nonelected with traverse in Applicant's Remarks, filed 12 September 2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Information Disclosure Statement

The information disclosure statement filed 12 September 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Specifically, no copy is available of the following documents:

WO | 2004/007166 | 19.07.2001

"Permeability of Plastics and Elastomers" 1995, Plastic Design Library, 1 page

Domininghaus Hans: "Die Kunststoffe und ihre Eigenschaften" 1992, VDI Verlag, Dusseldors 1992, 1 page

As no copy of the references is available, it is not possible to review the documents.

It appears that WO 01 52299 A was mistakenly cited as WO 2004/007166 given that the cited publication date (19 July 2001) was the publication date of WO 01 52299 A. Since WO 01 52299 A was able to be obtained and was cited on the International Search Report for the PCT application that 10/518,959 claims priority to, WO 01 52299 A has been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 1732

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama et al (20020007000) in view of Teijin LTD (JP 59045107A) and Jeram et al (4340709) and evidenced by Audsley (4929403).

Regarding claim 9, Yokoyama et al teach a method of manufacturing a microstructure having a projection pattern having a predetermined shape and a predetermined size on a surface of a substrate (fig 2d), comprising the steps of: preparing a flexible mold comprising a support made of a material having a tensile strength and a molding layer disposed on said support and having a groove pattern having a shape and a size corresponding to those of said projection pattern on a surface (fig 2b & par 0035) thereof; arranging a curable molding material between said substrate and a molding layer of said mold and filling said molding material into said groove pattern of said mold (fig 2c); curing said molding material and forming a microstructure having said substrate and said projection pattern integrally bonded to said substrate (fig 2c & 2d); and releasing said microstructure from said mold (fig 2e).

However, Yokoyama et al do not teach that the support material has a tensile strength of at least 5 kg/mm² and contain moisture to saturation at a temperature and a

Art Unit: 1732

relative humidity at the time of use by a humidity absorption treatment applied in advance.

Nevertheless, Teijin LTD teaches saturating ethylene terephthalate with saturated/superheated steam (abstract). Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to modify Yokoyama et al's method of manufacturing a microstructure to include a step of humidity absorption treatment/steam treatment. One would have been motivated to do so to prevent the polyester from having increased water content on storage and drying (abstract).

As to the tensile strength of the support material, one having ordinary skill in the art would know that silicon compositions are one of many commonly used materials used to make flexible molds as evidenced in US-4929403 (col. 1 lines 26-28). Jeram et al teach that silicon compositions could be cured to have a tensile strength of 770 p.s.i., which is at least 5 kg/mm² (col. 12 lines 35-40). Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to modify Yokoyama et al's method of manufacturing a microstructure to include a flexible mold material having a tensile strength of at least 5 kg/mm². One would have been motivated to do so to create a mold with desired material properties such as flexibility/stretch-ability.

Regarding claim 10, Yokoyama et al teach molding material is photo-curable material (fig 2c).

Regarding claim 11, Yokoyama et al teach microstructure is a back plate for a plasma display panel (par 0019).

Regarding claim 12, Yokoyama et al teach a step of independently arranging a set of address electrodes substantially in parallel with each other while keeping a predetermined gap between them on a surface of said substrate (fig 1, 10 & par 0018).

Response to Arguments

Applicant's arguments filed 12 September 2006 have been fully considered but they are not persuasive.

Applicant argues with respect to the 35 USC 103 rejections. Applicant's arguments appear to be on the grounds that:

1) The polyester of Teijin Ltd. is crystallized to prevent it from having increased water content on storage. Thus, the polyester is crystallized to prevent water adsorption. This contradicts Applicant's Specification that pretreats the plastic film so that the moisture content of the film reaches saturation and can no longer absorb water. The support's moisture adsorption is maximized. If Teijin Ltd.'s polyester is employed for use as the support, there would be no reason to subject the support to a moisture adsorption treatment. This is because it is already prevented from increasing in water content due to its crystallized surface layer.

The Applicant's arguments are addressed as follows:

1) As previously described in the 35 USC 103 rejection above, Teijin LTD is relied upon to teach treating the polyester with steam to crystallize the surface. Thus, the limitation of performing a moisture adsorption treatment is met. To clarify, the final product in the polyester preparation is the polyester with a crystallized surface layer. Since Teijin Ltd.'s surface is initially not a crystallized surface, the polyester receives a

Art Unit: 1732

moisture adsorption treatment. This treatment consists of treating the polyester with steam. The principal reason is to cause the surface to crystallize (see Teijin abstract, paragraph 3).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

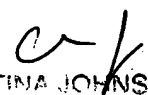
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mo.-Th. 7:30 a.m. - 5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Patrick Butler
Assistant Examiner
Art Unit 1732


CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER

11/24/06